

ORIG
UNIT
EXT

DATE : 24 January 1957

TO

FROM : DIRECTOR

CONF : SA/PC/DCI (1,2,3,4,5,6,7,8,)

INFO :

462 CLASSIFIED MESSAGE

SECRET

ROLLING

1	ATA	4	RMB
2		5	JAG
3		6	Ops

OUT 60377

PRIORITY

PRIORITY

PRECEDENCE

CITE:

7779

REF: A. 2720 (IN 12566)
B. 2771 (IN 12735)
C. 2736 (IN 12621)

1. RE PARA 3 REF A AND PARA 5 REF B. HARDENER FOR NH-5 AND SAT-5 IDENTICAL. OUR TESTS AT "B" INDICATED AMOUNT OF HARDENER REQUIRED WAS TWICE THAT RECOMMENDED BY THE MANUFACTURER. EXCESSIVE AMOUNTS OF HARDENER MAKES EMULSION BRITTLE, WHEREAS TOO LITTLE HARDENER LEAVES EMULSION SOFT AND STICKY. LIQUID CONCENTRATED HARDENER CONTAINS IDENTICAL INGREDIENTS AS POWDERED HARDENER AND IS MORE ACCURATELY CONTROLLED AND IS MORE SOLUABLE. FUTURE SHIPMENTS OF NH-5 HARDENER WILL BE PACKAGED IN PLASTIC BOTTLES. AND NH-5 CONCENTRATE WILL BE MORE CAREFULLY PACKAGED.

2. RE PARA 2 REF B AND C. ALTHOUGH THREE POUNDS OF HYPO CRYSTALS (SODIUM THIOSULFATE) MIXED WITH EACH GALLON OF WATER COMBINED WITH THE PROPER AMOUNT OF PREPARED HARDENER IN POWDERED FORM IS A VERY SATISFACTORY FIXING AND HARDENING BATH, HYPO CRYSTALS ARE DIFFICULT TO DISSOLVE TO A SAFE MINIMUM LEVEL BY WASHING. THE NH-5 IS A CONCENTRATED SOLUTION OF SODIUM AMMONIUM THIOSULFATE WHICH IS CONSIDERABLY MORE SOLUABLE IN WATER AND HENCE EASIER TO

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WASH OUT TO A SAFE LEVEL. SUGGEST CONTINUING TESTS WITH NH-5 AND LIQUID HARDENER.

3. RE PARA 5D OF REF B. LOCAL WATER CONDITIONS MIGHT AFFECT SOME PHASES OF PROCESSING, BUT NOT DRYING. FOR EXAMPLE: A HIGH MINERAL CONTENT IN THE WATER SUPPLY WOULD CAUSE A RAPID RATE OF OXIDATION IN THE DEVELOPER AND COULD EVEN CHANGE THE COLOR OF THE DEVELOPED IMAGE: THE MINERALS CAN ALSO COMBINE WITH SOME OF THE SALTS IN THE FIXING BATH WHICH WOULD MAKE THEM MORE DIFFICULT TO DISSOLVE BY WASHING, BUT IN NO REPEAT NO INSTANCE SHOULD THE MINERALS AFFECT THE DRYING OPERATION.

4. LACK OF CONSISTENCY IN "REPEAT" TESTS COULD BE DUE TO SMALL DIFFERENCES IN TEMPERATURE OF PROCESSING SOLUTIONS AND VARYING LOCAL HUMIDITY CONDITIONS.

5. AS STATED ABOVE, SUGGEST YOU CONTINUE TESTS WITH NH-5 WITH LIQUID HARDENER ELIMINATING THE PERMA-WASH AND, AS RECOMMENDED EARLIER, WASH FOR NINETY MINUTES IN APPROXIMATELY 68 REPEAT 68 DEGREE RUNNING WATER. NOTE: WATER THAT IS TOO COLD (50-60 DEGREES) WILL NOT DISSOLVE THE RESIDUAL CHEMICALS TO A SAFE LEVEL AND THESE RESIDUALS COULD CAUSE STICKINESS IN THE DRYER. WATER THAT IS TOO WARM (75-85 DEGREES) WILL CAUSE THE EMULSION TO BE SOFT AND STICKY

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UNLESS PRE-HARDENED BY MORDANTING BATH WHICH IS NOT RECOMMENDED. THE MANUFACTURER OF NH-5, SAT-5 AND PERMA-WASH IS CONDUCTING TESTS WITH OUR FILM. RESULTS DUE IN 2-3 WEEKS. PLEASE EXPAND DETAILS OF RESULTS OF YOUR TESTS SO THAT WE CAN BETTER GUIDE YOU AND MANUFACTURER, INCLUDING QUALITY OF FILM, STATEMENT AS TO TROUBLE ENCOUNTERED AND SPECIFIC NATURE OF RESULTS.

6. RE PARA 6B REF B. NH-5 HARDENER WITH HYPO CRYSTALS USED HERE SUCCESSFULLY FOR PAST 6 MONTHS FOR PROCESSING PAPER WITHOUT ANY PRECIPITATION.

7. RE PARA 2C AND 2F OF REF B YOUR TEST 3 INDICATED SATISFACTORY USE OF NH-5 WITH LIQUID HARDENER BY REDUCED CONCENTRATION OF SOLUTIONS. SEND SMALL SAMPLE OF THESE TESTS SO PERMANENCY CAN BE DETERMINED HERE.

phone

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A. C. Landahl
Chief, HTAUTOMAT

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